

The Potato News Bulletin

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The Potato Association of America

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*Hot item.
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Report of Cincinnati Meeting

The tenth annual meeting of The Potato Association of America, which was held at Cincinnati, Ohio, December 27 to 29, 1923, proved to be the best ever held by the Association. The following brief resume of the meeting is presented for the purpose of acquainting the members with the general character of the papers presented. As arranged by the program committee the first session held Thursday forenoon, December 27, 1923, was devoted to introductory remarks by the president, Dr. W. H. Martin, the secretary-treasurer's report and by the chairmen of the various standing committees. The secretary's report showed a gain in membership during the year 1923 of approximately 70 per cent while the treasurer's report showed a more substantial balance in the treasury than in any previous year.

The report of the committee on research was a most interesting one from both the standpoint of completeness as well as of the summation of the data reviewed. Particular attention was given to potato wart and virus diseases, physiological studies and the progress being made in breeding and selection. The varietal nomenclature and testing committee presented a splendid report on the newer varietal names and the groups to which they belong. It also included a summary of present knowledge on mutations and bud sports. A very exhaustive report on seed improvement and certification was submitted at a later session but owing to lack of time there was no opportunity for its discussion.

All papers listed for the potato fertilizer symposium were read at the afternoon session on Thursday and a most interesting discussion followed their presentation. One of the chief points raised was that of what becomes of the large excess of phosphorous ordinarily applied to the potato crop when from 1500 to 2500 lbs. of commercial fertilizer is used per acre. The question involved was that of the possibility of releasing the residual phosphorus for the use of ensuing crops. The best sources of nitrogen and

potash also came up for discussion, but no conclusive evidence in favor of one form over that of another was presented. Methods of applying commercial fertilizer were also discussed. Daniel Dean demonstrated that for his conditions it was better to broadcast the commercial fertilizer and plow it under than to apply it in the drill row.

The symposium on potato grading and marketing, owing to the failure of Mr. Peteet to attend the meeting, was not quite up to the mark set for it. Despite this fact, however, the papers presented by Messrs. Dean and Hurley were extremely interesting. A letter from Mr. Corey of the firm of Phillips and Corey, Boston sales and distributing agents for the federation of Maine potato dealers was read by Mr. Hurley. This paper contained interesting information on corporate marketing. Mr. Hurley also read an interesting stenographic report of an address made by Mr. Peteet at an earlier date before New York State growers on the subject of co-operative marketing, which served to round out the discussion on the subject of marketing. Dean prefaced his remarks on individual marketing by the statement that the first step in the disposal of a crop was that of the production of a high grade commodity. He claimed that it was impossible to make a high grade product out of low grade stock. Careful seed selection and up-to-date cultural practices are prerequisites to the successful production of good quality stock.

The symposium on potato scab control was perhaps the most interesting of the series. Dr. Martin's rather exhaustive review of the early use of sulfur in scab control together with his discussion of results of recent investigations in New Jersey paved the way for the presentation of the other papers. After listening to the several papers read and the discussions which ensued it seemed to the writer that on certain types of soil and under special climatic conditions, the use of flowers of sulfur at the rate of from 300 to 600 pounds applied broadcast and disked in gave fairly efficient control of tuber injury from scab, but that on other types of soil and climatic conditions the control of scab injury was less marked and in some instances apparently entirely lacking. The use of super-acidulated phosphate was shown in some instances to have given as good results as flowers of sulfur. Briefly summed up it might be stated that the question of inhibiting the growth of the scab organism in the soil is still an unsolved one on many types of soil, that on the sassafras loam soils of New Jersey and Long Island the application of flowers of sulfur, especially the inoculated material, has in most instances proved quite efficacious in preventing tuber injury.

The final session of the meeting which was devoted to papers of a miscellaneous nature was extremely interesting because of the diverseness of the subjects discussed. Prof. Nixon's presentation of his six years results in determining the best source of seed potatoes for Pennsylvania potato growers was closely followed by those present. Dr. Hardendurg from experimental data showed

the influence of temperature and moisture on tuber set. The results secured showed an increased tuber set on plants grown at 68.58 degrees F. over those grown at 59.55 degrees F. The average weight per tuber, however, was greatest from the cool temperature plants.

Interesting data on storage problems were presented by L. M. Marble, A. T. Evans and A. L. Bushey, and J. S. Gardner. These papers provoked considerable discussion.

An interesting variation in vigor of sprouts from quartered sets of the same tuber was shown by John Bushnell. The lantern slide material shown, forcibly demonstrated the point in question.

Lack of time prevented the reading of Dr. Quanjer's paper. The outstanding features in the relation of science to the potato industry during the past 75 years were shown by Stuart to be the development of a distinct race of American varieties of potatoes beginning with the Garnet Chili, Early Rose, Peerless, Prolific, etc., the development of insect and fungous disease control methods, the origin and perfection of Bordeaux mixture; development of automatic horse drawn potato planters and diggers; production of high grade seed potatoes; the disinfection of seed potatoes; the use of chemical fertilizers; the study of virus diseases and their relation to the so-called degeneration of potato varieties; group classification of varieties; varietal or group adaptation to environmental conditions and standardization of varieties were regarded as the outstanding features of the period. The following resolutions were adopted:

Resolved, that whereas there has been a large excess production of potatoes in this country during the years 1922 and 1923 resulting in a lowering of the price received by the producer of this staple food commodity to a point far below the cost of production, thereby causing extreme financial distress in many important producing sections; we the members of The Potato Association of America here assembled deem it highly desirable that the United States Department of Agriculture should, in the most convincing manner possible, convey to the potato growers of the northern potato-producing belt, the necessity of restricting the acreage planted to potatoes in 1924 in order to bring the industry back as soon as possible to a sound economical basis of production:

Be it further resolved that The Potato Association of America desires to express its sincere appreciation of the many courtesies extended the Association by both the general and local committee of the A. A. A. of S., thereby very materially assisting in making this annual meeting of the Association a most interesting and profitable one to the members and visitors in attendance.

Respectfully submitted,

| | | |
|-------------|---|---------------|
| Committee | { | H. R. Talmage |
| Resolutions | | M. C. Rumsey |
| | | Wm. Stuart |

The newly-elected officers for 1924 are as follows:

A. G. Tolaas, President.....University Farm, St. Paul, Minn.
S. G. Peppin, Vice-President..Experiment Farm, Charlottetown,
P. E. I.

W. Stuart, Sec'y.-Treas.....U. S. Dep't. Agr., Washington, D. C.

W. M. Peacock, Ass't. Sec'y.-Treas...U. S. Dep't. Agr., Wash-
ington, D. C.

The directors are the president, vice-president, sec'y.-treas., the retiring president Dr. W. H. Martin, Agricultural College, New Brunswick, N. J., and Daniel Dean, Nichols, N. Y.

Notice.—In accordance with action taken by the members in attendance at the annual meeting it is proposed to publish the proceedings of the Association, as heretofore, in the form of an annual report. This will involve a continuation of The Potato News Bulletin along present lines. Owing to an oversight on the part of the secretary the pagination of the December issue was from 1 to 20 instead of 9 to 28. Beginning with the January number the pagination will be continuous for the remainder of the year. The present number begins with page 29. Please remember that your secretary is probably just as busy as you are, and has no more time for the preparation of articles or contributions to the News Bulletin than you have. If everyone will contribute one or more items each month, there will be little difficulty in making our monthly publication extremely interesting to all its readers. Are you willing to do your bit? — **W. Stuart.**

POTATO NOTES

British Columbia.—The second annual British Columbia Potato Show was held in Victoria, November 12th to 17th. The prize list was arranged to give both adults and boys and girls an opportunity to exhibit. Prizes were given for certified seed, commercial potatoes grown from certified seed, commercial potatoes grown from uncertified seed, district displays, Women's Institute exhibits and boy's and girl's exhibits. In addition to this, two seed potato judging competitions were held, one for adults and the other for boys and girls.

The number and quality of exhibits in every class was particularly pleasing, and served to show that British Columbia can produce potatoes, both seed and commercial stock, which will compare favorably with those produced in other places. Altogether 404 exhibits were received. The prize for the best exhibit of certified seed was won by A. J. Walker, Windermere, B. C., who scored 99 points out of 100 with Netted Gem.

The cup for the best district display was won by the Windermere district which scored 771 points out of 800, with the two varieties,

Wee McGregor and Netted Gem. The Victoria Potato Growers' Association was a close second, with 768.5 points, with the Sir Walter Raleigh variety.

In connection with the potato show, addresses were given by leading potato authorities in Canada and the United States. During the week two potato growers' associations were formed, one for marketing certified seed potatoes, and the other commercial stock.—C. Tice, Victoria, B. C.

Nebraska.—The seventh annual convention of the Nebraska Potato Improvement Association which was held at Chadron, Neb., Dec. 5-7, 1923, was practically a certified seed potato growers' convention. Probably 60 per cent, or more, of the certified seed growers were in attendance. A very encouraging interest was manifested by them in the more technical subjects. Mosaic, spindle tuber, and *Fusarium (Eumartii)*, were the major diseases given consideration. Throughout the course of the convention, it was quite evident that the most urgent need at the present time is a certified seed potato growers' selling agency, for the purpose of developing new and wider market fields, and to more intensively develop the present markets. No action was taken so far as the current crop is concerned, but it is quite probable that some definite substantial movement will be established before the next crop is put on the market.

The report of Prof. G. L. Tiebout at Baton Rouge, La., was of very special interest to the members. He reported that during the five years of the co-operative Federal-State Triumph trials, the following results were secured at Baton Rouge:

| Source of Seed | No. of Lots Tested | Total Yield Per Acre | Per Cent Mosaic |
|---|-----------------------|-------------------------|--------------------|
| Nebraska | 18 | 144.6 | 7.9 |
| Wisconsin | 16 | 139.8 | 23.9 |
| MinnesotaAbout | 8 | 120.7 | 33.5 |
| Check lots (uncertified lots picked up on local markets | .. | 99.5 | 47.5 |

He also reported that the 200 bushels of Nebraska certified seed, which was distributed among boys and girls garden club members in Louisiana, made a very satisfactory showing in practically all cases. As definite indications of the interest created, he made the statement that because of this demonstrational work by the boys and girls, he was quite definitely assured there would be a market for 53 additional car lots of western Nebraska certified seed potatoes in Louisiana. Up to the present time, the writer has definite information that at least 10 of these cars have been shipped to Louisiana parishes where certified seed was never before used.

The potato exhibits were confined almost entirely to the Triumph

variety. There was very keen competition in both the seed and the commercial classes of this variety, all of the exhibits being of relatively high quality.— **H. O. Werner, Lincoln, Neb.**

New York.—The average results of potato seed treatments in New York were less favorable in 1923 than for any year since the records were kept. There was also a much wider variation in the gain or loss. It is evident from this year's work and that of 1918, that the increase from treating during dry seasons cannot be expected to be as large as when there is plenty of rainfall. The actual results of the treating in 1923 are not so unfavorable as the figures indicate. For instance in Erie County, if only the marketable potatoes were counted, there would be an increase in favor of treating, instead of a loss of 16 bushels.

Results of Potato Seed Treatment in 1923

| County | No. of Demonstra- tions | Av. Yield of Treated | Check | Gain or Loss |
|----------------------------|-------------------------------|-------------------------|-------|-----------------|
| Allegany | 2 | 222 | 130 | 92 |
| Delaware | 2 | 261 | 211 | 50 |
| Erie | 6 | 167 | 183 | -16 |
| Genesee | 1* | 240 | 240 | 0 |
| Genesee | 2 | 134 | 108 | 26 |
| Wayne | 5 | 133 | 117 | 16 |
| No. Counties, 1923, 5 | 18 | 163 | 157 | 6 |
| No. Counties, 1922, 6 | 40 | 203 | 179 | 24 |
| No. Counties, 1921, 8 | 42 | 181 | 159.4 | 21.6 |
| No. Counties, 1920, 8 | 38 | 277 | 244 | 33 |
| No. Counties, 1919, 7 | 28 | 237 | 189 | 48 |
| No. Counties, 1918, 4 | 49 | 201 | 187 | 14 |
| | 215 | | | 25.4 |

* 10 duplications.

The general method employed was the use of cold corrosive sublimate solution, and soaking the tubers for 1½ hours. Probably one half of the potato growers of the state treat in this manner. For instance in Steuben County, the growers pooled their orders for 250 pounds of the disinfectant. This is sufficient to treat seed for 1,000 acres of potatoes. A few men use hot formaldehyde as recommended by the Iowa Experiment Station. The unpleasant fumes together with the fact that the tubers must be handled twice, will never make it a popular form of treatment.

About 40,000 bushels of potatoes were treated this season by the hot corrosive sublimate method. The potatoes are dipped for two to three minutes in the poisonous solution, heated to 124-126 degrees F, and then dried. A reliable man with the apparatus can contract for and treat as many potatoes as the season will permit, since the farmer is short of help, and welcomes any method that

relieves him of the extra labor. It will cost the grower about \$1.20 an acre to have his seed treated, and as the records show for six years, the average increase is 25 bushels. Moreover, when all the tubers are treated unvaryingly by the hot method, the results are usually more uniformly successful.— **Charles Chupp, Cornell University, Ithaca, N. Y.**

North Dakota, Nov. 30, 1923.— Following the late and rather active campaign in Minnesota for the organization of the potato growers of Minnesota into a Minnesota Potato Growers' Exchange, with a view to proper handling and marketing of the potato crop in 1924, the North Dakota campaign is also going on with every prospect of success. Mr. Charles M. Morgan has been selected by those who are backing the organization of the North Dakota potato growers to do the active work of organization in this state. His efforts apparently are meeting with success, and there are prospects that before the planting season of 1924, the chief potato producing counties of North Dakota will be thoroughly and efficiently organized. The work is being directed along the line of commodity marketing under the Sapiro form of contract. North Dakota has a very large area of land which is suitable for the production of potatoes. Those familiar with the difficulties arising from extensive production without careful handling are very solicitous that the organization as undertaken shall result in orderly planting, crop handling and produce marketing, in such manner that while perhaps less acres may be used and less bushels raised, there may, nevertheless, be a great uniformity of product placed on the market, and the growers thus receive greater remuneration. At the present time, the depressed condition of the potato market, and the very large area of production that was undertaken by the farmers, have resulted in much discouragement to the growers. The same facts, however, have apparently acted as a stimulus, and we may expect with a certainty that the business of potato growing will surely be placed on a more substantial basis in the near future in these two great states, where standard types of Early Ohio, Triumph, and Cobbler, may be expected to be grown in the finest possible type and form. There are great areas suitable for the culture of potatoes which are new and unaffected by any of the potato diseases or troubles, and the climate for the growth of the crop is unexcelled.— **H. L. Bolley, Agr. College, N. D.**

Ohio.— The total acreage of potatoes certified in Ohio in 1923 was 79.25. Of this number there were 23.5 acres of Russet Rurals yielding 4,405 bushels, and 55.75 acres of White Rurals yielding 6,620 bushels or a total of 11,025 bushels of certified seed.

Ohio certified seed potatoes are profitable for general field planting because they are selected, high yielding strains for each variety. They are true to type for variety, and practically free from tuber-borne diseases, having passed two rigid field inspections, and one bin inspection, before being certified.

In comparative tests at the Ohio Agricultural Experiment Station, they have been among the highest yielding strains, and are used in fertility test plot work. Certified seed of late varieties, in 90 demonstration plots in 1922, gave an average of 49 bushels more per acre than common seed. Over 80 carloads of certified seed were used in Ohio for planting the 1923 crop.—**W. W. Glines, Ohio State University, Columbus, Ohio.**

South Dakota.—Organizing of a general state committee to go forward with a campaign to enlist South Dakota potato growers in a five-year co-operative marketing and warehouse agreement, lining up with other important potato states of the country, is under way at the present time. This committee was appointed following a mass meeting of growers, bankers, and business men, called at Watertown, December 18, to consider the so-called California Co-operative Marketing Plan, for handling South Dakota potatoes. The state general committee includes the entire board of directors of the South Dakota Potato Growers' Association and the Potato Exchange, as well as representatives of a diversity of other interests concerned in the economical side of agriculture, such as the South Dakota Farm Bureau, Bankers' Association, Watertown Chamber of Commerce, South Dakota Department of Agriculture, Retail Merchants' Association, Implement Dealers Association, etc. The committee has the power to add more members, who are to be chosen from growers and business men, in the potato producing areas of South Dakota.

The meeting on December 18 was attended by S. G. Rubinow, organizer in the Minnesota campaign, who explained the five-year marketing and warehouse contract, and pointed out many of the fundamental business truths about co-operative enterprises. Dan A. Wallace, editor of "The Farmer," St. Paul, and S. E. Elliott, publicity director of the Minnesota Farm Bureau Federation, were also in attendance.—**A. W. Tompkins, Hayti, S. D.**

Prince Edward Island, Dec. 1, 1923.—We have been exceedingly busy up to the present time making shipments of our seed potatoes. We have sent two large steamer cargoes of 33,000 sacks, certified No. 1, Irish Cobbler, to Virginia. We have also forwarded by rail to Long Island, 200 carloads of Green Mountain and Irish Cobbler.

We shall not have many carloads held over for spring, possibly some 30 to 40 cars. These will be all Green Mountain. Although we have shipped about 55,000 sacks of Irish Cobbler this year, we were obliged to stop taking orders the last of September. We had just about the right amount of Green Mountain, but found a ready market for them at a good price.

Our work has gone along very nicely this fall, and at time of writing we have been without any frost—a regular ideal fall.—**W. Boulter, Charlottetown, P. E. I.**

Walla Walla, Wash.—"Necessity is the mother of invention."

The farmer today is beginning to realize the necessity of using his head as well as his hands. As a result he is putting out better products, with a larger gain for himself, and even making a profit where loss seems unavoidable. A good illustration of this principle is the methods he now uses in marketing a surplus crop of potatoes. Too long it has been the custom to let good tubers rot in the pit, attributing the loss to hard luck, simply because of an over-stocked market, when in reality the market was not over supplied with a good product. The public, that buys every other vegetable in clean attractive crates, is about "fed up" on the conglomeration of potatoes that comes to it in old, stained sacks. Taking advantage of this opportunity, one of the members of the Walla Walla County Seed Potato Growers' Association disposed of eight hundred sacks locally at a profit, during the big potato season of last year.

Owing to weather conditions especially favorable to the raising of potatoes, the 1922 crop was the largest ever produced in the United States. In the Walla Walla Valley there was a larger acreage and a better yield than ever before. The size was about normal and the quality extra good. This acreage was due, in large part, to a Seed Potato Growers' Association, which was organized in the spring of that year, among the Farm Bureau members of Walla Walla County. The organization advocated the use of good certified seed and the roguing of seed plots, which resulted in a large output of potatoes to be sold for seed. Such an enormous production the country over, together with the inevitable low price, discouraged farmers in attempting it the next year. Hence, a great part of this seed potato acreage had to be disposed of as table stock on glutted market. Unique methods therefore, had to be employed to sell this crop. The Association used tags on each sack of seed bearing the grower's name and the guarantee. They did not pool orders, but assigned a district to each grower, where seed could be obtained from him alone, thereby doing away with competitive selling. Where all of the crop could not be sold for seed, the potatoes were carefully sorted, and only the large ones selected for table use. These were mountain grown Netted Gems, and could well compete with irrigated potatoes of the state. On the other hand, the small ones were the best for seed; and in selling, thus, there was no loss of product. It was also found that potatoes put up in new sacks sold better than those in old sacks. And clean, graded potatoes were especially in demand.

But even with all these methods, every grower could not get rid of his crop. Finally, one of them resorted to cartons. At first he considered wooden crates, but the price of potatoes was too low to insure him a profit. It was his good fortune, however, to find a cardboard box that answered all requirements. It was attractive, well ventilated, and made so that the purchaser could

see what he was getting. This carton weighed fifteen pounds when packed, which amounted to twelve potatoes, if they were extra large. On the outside was stamped the weight, variety, grade, and the guarantee that they were mountain grown, clean, smooth, right size, free from rot, sunburn, or frost, and non-irrigated potatoes, together with the name and address of the grower. This was a clean, neat package that the merchant could easily handle, and the amount generally ordered by housewives. It sold for a moderate price, but netted the grower \$1.50 on the hundred pounds, when grocers were selling potatoes at 60 cents a sack, and it would have been impossible to have disposed of them otherwise at that price.

As soon as planting time was over and there was no more opportunity for selling seed, the remainder of the ungraded potatoes were put out at a low price per ton and sold to public institutions. So the entire crop was rapidly cleaned up. Of course, the profit was not large in such a year, but there was a gain, when during similar circumstances many a man has taken a complete loss. The one who used the cartons found them so popular that he will have no difficulty in disposing of his crop this year, and will be able to get a good price for his fancy grades. Moreover, it has disclosed to the grower his possibilities, it has brought to the public a better graded product, and benefited the entire county in encouraging the use of home grown potatoes both as seed and as table stock.—**M. E. Laidlaw, Walla Walla, Wash.**

Wisconsin.—The year's work along organized lines closed in Wisconsin with the conclusion of the Wisconsin Products Exposition, held at Milwaukee during the week of December 1 to 8, 1923. Nine counties in Wisconsin sent exhibits of seed stock and show stock to this Exposition. The exhibit was arranged primarily in the interests of the development of the certified seed potato work of the state. The exhibit was confined this year almost exclusively to stock from upper Wisconsin counties. The varieties represented were the Rural New Yorker, Green Mountain, Triumph, Irish Cobbler and Early Ohio.

The Exposition as a whole, and especially as affecting Wisconsin potato interests, was considered a great success. About forty thousand people passed through the Exposition. Several states sent official delegations and representatives.

The Exposition has also solved one of our problems in Wisconsin relative to exhibits and expositions. Wisconsin growers now have an opportunity to install an exhibit at the Exposition devoted exclusively to advertising and publicity features. Our competitive potato exhibit and state convention has been transferred to the potato producing sections of the state while the advertising and publicity features are incorporated in the one large Exposition at Milwaukee.—**J. G. Milward.**

SEED CERTIFICATION NOTES

New York.— This year (1923) New York State did not produce by 65,468 bushels as much certified seed as last year. This is due in part to a reduction in area of 262 acres planted for inspection and of 228 acres passing final inspection, and in part to an average reduction in yield per acre of 13 1-8 bushels. This reduced yield per acre is not the result of a poorer quality of seed stock used but of the continued drought throughout the summer in most of our seed producing regions. It is interesting to note that the reduction in yield took place in the cases of all blue sprout varieties grown, and also in the case of Cobblers and Spaulding Rose 4, and that the average reduction in yield would have been much greater had it not been for increases in yield per acre of Green Mountain, of which there was an increase in acreage over last year. There was also a marked increase in yield per acre of American Giant, but the acreage this year was considerably smaller than last. The quality of the stock grown appears to be excellent and the growers are taking a great interest in producing high quality stock. The table below gives information regarding varieties grown, acreage, and yields obtained this year.

| Variety | Acres Certified | Total Yield |
|------------------|--------------------|----------------|
| Irish Cobbler | 109.5 | 21,954 |
| Green Mountain | 470.77 | 111,086 |
| Smooth Rural | 323.25 | 60,722 |
| Russet Rural | 189.1 | 33,850 |
| Spaulding Rose 4 | 22.5 | 5,948 |
| American Giant | 11. | 2,005 |
| Bliss Triumph | 7. | 1,100 |
| Burbank | 6. | 766 |
| Champion | 4. | 600 |
| Roxbury | 4. | 1,000 |
| Total | 1147.12 | 239,031 |

M. F. Barrus, Ithica, N. Y.

Pennsylvania.—The following interesting information is abstracted from the December 15 issue (No. 17) of the Seed Potato Circular issued by the Pennsylvania Department of Agriculture, Harrisburg, Pa. This circular edited by C. H. Bradley and W. A. McCubbin, consists very largely of reports from three seed potato counties in the state, Bradford, Cambria and Potter counties. "Bradford County growers have for several years been practicing most up-to-date methods in the production of disease-free potatoes. Their product has been shipped to discriminating buyers with satisfactory results, and today there is available in the county several carloads of the 1923 crop produced under the above mentioned conditions." The prevailing varieties are the Russet Rural and Sir Walter Raleigh.

In Cambria County the growers began five years ago to practice selection and roguing in order to improve their yields of potatoes. When this work was begun, a yield of 200 bushels per acre was considered good; today some growers are producing 400 bushels or better. The potatoes grown for certification are of such a high quality as to require little grading to meet market requirements. Late blight rot has been largely eliminated by spraying. The situation in Potter County is claimed to be good. A large portion of the certified seed potatoes are now in storage in a well-ventilated storage house at Coudersport. The stock is said to be of medium size and good quality. Extensive comparative tests are being planned for 1924 in order to determine the relative merits of the certified seed produced by the different growers.—**W. Stuart.**

South Dakota.—The following is a summary of the seed inspection and certification work in South Dakota during the year 1923: Agency handling inspection work in South Dakota—

Extension Division, Brookings, S. Dak.

Name of Chief Inspector—

Dr. A. T. Evans, Brookings, S. Dak.

Agency making certifications—

South Dakota Potato Growers' Association, Hayti, S. Dak.

Certification Officer— A. W. Tompkins, Hayti, S. Dak.

Number of applications— 90

Acreage 670 1-6

| | Fields | Acreage |
|--|--------|---------|
| Total Number of fields inspected | 114 | 670.08 |
| Total Number of withdrawals..... | 11 | 58.08 |
| Rejections | 36 | 189.83 |
| Fields passing three inspections for which certificates have been approved | 65 | 409.17 |
| Fields for which no report has been received | 2 | 13. |

| Varieties certified | Acres | Bushels |
|------------------------|-------------------|---------|
| Early Ohio | 274 3-4 | 43735 |
| Irish Cobbler | 56 1-2 | 11900 |
| Bliss Triumph | 36 1-6 | 5520 |
| Green Mountain | 1-2 | 90 |
| Rural New Yorker | 2 1-4 | 500 |
| Early Ohio | 40 (Not Reported) | |

— **A. W. Tompkins, Hayti, S. Dak.**

Vermont.—The output of Vermont seed for 1923 is estimated in round numbers at 130,000 bushels, and the acreage certified 485. This is a decrease both in acreage and yield from 1922, but the figures show that a much larger percentage of the inspected acreage was certified. Late blight which cut out about fifty per cent of the inspected acreage in 1922 was almost entirely absent this year and approximately eighty per cent of the inspected acreage was certified as compared with fifty per cent last year.

Although drought conditions checked the growth very much

during a portion of the season, late rains caused a resumption of growth and the final yield records were fair to good. One grower reported 400 bushels per acre from Bay of Chaleur seed. The quality is rather better than the average. Little or no wilt has occurred. Rhizoctomia is not as prevalent as usual and scab is less troublesome than ordinarily. There is somewhat more irregularity in size and shape of tubers than usual, due to the varying growth conditions, early drought and late rains, which also resulted in some oversize tubers.

As to mosaic and leaf-roll very few fields with high disease counts have been inspected. This is evidently due largely to co-operation in the use of better seed. For two years the State Department of Agriculture in charge of the inspection service has compiled a list of fields especially recommended for local planting. These are the fields which the inspections have shown to be the most free from diseases and grown under conditions favorable for maintaining this freedom.

Sales totaling about 50,000 bushels have been made chiefly with fall delivery, and at prices ranging from \$2.00 per bushel f. o. b. shipping point in early October, to \$1.50 per bushel in late November. The relatively small supply of Irish Cobbler was early exhausted and late orders could not be filled. Of the Green Mountain there are perhaps 50,000 bushels of sorted seed on hand for Spring sale.

A new departure in the Vermont certification service this year has been made in the matter of financing. Heretofore the cost of the inspection work has been paid from the State Department of Agriculture budget. This year, with the approval of the growers and under a bill enacted by the last legislature, the Commissioner of Agriculture is authorized to collect from the growers a per acre assessment sufficient to defray the expenses of the inspection service.—**A. H. Gilbert, Burlington, Vt.**

Wisconsin.—The season's records are now complete and certificates will be issued to about three hundred growers in Wisconsin this year, representing a production of about four hundred thousand bushels of seed stock. The heavy freeze of September 12th eliminated a large number of growers in the central section of the state. The crop in upper Wisconsin, however, was practically made at this date and a normal yield of certified seed was harvested from this section. The average yield per acre from certified fields this year is 212 bushels. This is the largest average yield per acre from certified fields ever reported from this state.

The organized agencies in Wisconsin are planning a campaign this winter in the interests of uniform grading and marketing of certified seed potato stock. The growers represented at the Wisconsin Products Exposition voted unanimously to organize a Sales Organization. A plan is being worked out by the Wisconsin Certified Seed Potato Inspection Board to be submitted to the growers of the state at a series of conferences to be arranged during the coming winter.—**J. G. Milward, Madison, Wis.**

NOTES ON RECENT LITERATURE

ANONYMOUS.—Aroostock County potato shipments heavy:—Weather, Crops and Markets 4: 629, Dec. 15, 1923. Up to December 8, Maine had shipped 14,372 carloads of potatoes, whereas on the corresponding date of the year previous only 8,384 cars had been moved. According to these figures the shipments from Maine this season show a greater percentage of the crop moved than in any previous year. Seed stock shipments are well under way. Spaulding Rose was the principal variety shipped for the seed trade in the Hastings, Florida, district. Considerable quantities of Green Mountain were shipped to Long Island in the late fall. On December 7, 1922, Green Mountain were quoted mostly around 80c per 100 pounds, and on the corresponding date this season they were quoted at \$1.10, with a few at \$1.15 per 100 pounds. Heater cars are being more extensively used this season than in the past, but the prevailing type of equipment is the lined box car. The heater car charges are 8 cents per 100 pounds to Boston, and 9 to 10 cents for New York points.—*W. Stuart.*

ANONYMOUS.—Colorado potato market dull.—Weather, Crops and Markets, 4: 629, Dec. 15, 1923. Up to December 8, Colorado had shipped 6,281 cars of potatoes, or 535 cars less than last year on same date. The Western Slope has shipped over half the potatoes moved to date mentioned. 900 cars are reported from the Greeley district, and approximately 1,700 cars from the San Luis Valley.—*W. Stuart.*

ANONYMOUS.—Idaho potatoes to California.—Weather, Crops and Markets 4: 629-630, Dec. 15, 1923. The strong demand for Russet Burbank table stock in California has resulted in a fair price to the growers. During the past six seasons Idaho has averaged to ship about 67 per cent of her crop. Eastern Idaho has a 56 1-2 cents freight rate to southern California.—*W. Stuart.*

ANONYMOUS.—Market for seed potatoes in Guatemala.—New England Farms 53: No. 52, p. 7, Dec. 29, 1923. According to this article the potato crop in 1921 amounted to 4,772,600 pounds, while in 1922 the yield was 3,623,000 pounds. Information thus far at hand on the 1923 crop only shows a production of 983,300 pounds. It is claimed that the yearly requirements of potatoes for food purposes by the Guatemalans is between five and six millions of pounds. All imported potatoes are brought from the United States free from import duty and are mostly used for seed purposes, and retail to the planters at from \$4.00 to \$6.00 a hundred pounds. All seed used must be imported, as home grown potatoes cannot be held over from harvest to planting time. Imported seed must be accompanied by a certificate stating that they have been grown in districts free from plant diseases.—*W. Stuart.*

ANONYMOUS.—Low prices for Wisconsin potatoes.—Weather, Crops and Markets 4: 628, Dec. 15, 1923. The Wisconsin potato growers are looking forward, for the third consecutive season, to an unsuccessful year so far as potatoes are concerned. Produc-

tion in Wisconsin this season is below normal; this fact, coupled with low prices, makes a rather discouraging outlook for the grower. There is some consolation, however, in the fact that on December 15, 1922, bulk stock was selling at shipping point for 30 to 40 cents per cwt., whereas on Dec. 15, 1923, the same brought from 50 to 70 cents per cwt.—*W. Stuart.*

THEODORE MACKLIN.—Merchandising farm crops.—Extension Service, Coll. Agr., Univ. Wis. Circ. 116, pp. 1-22, June, 1923. This is a general discussion of the problem of merchandising farm crops to the best possible advantage of the grower and consumer. Every producer of farm products on a commercial scale should read this circular.—*W. Stuart.*

THE POTATO INDUSTRY IN BRITISH COLUMBIA

By C. Tice, Dept. of Agriculture, Victoria, B. C.

(Continued from last issue)

In central British Columbia where conditions are becoming more favorable for potato growing each year, the growers are taking a much keener interest in the crop—in fact it is possible that this section of the country may some day become a great seed potato producing center particularly in the neighborhood of the Skeena Valley.

The chief handicaps to the potato in British Columbia during the past years have been: (1) the use of poor seed, (2) lack of standardization, (3) poor storage facilities, (4) lack of co-operative effort.

To improve the seed the Provincial Department of Agriculture through the Soil and Crop Branch and with the writer in charge started a system of seed potato inspection and certification in 1921. This work has made satisfactory progress since its inception, and growers everywhere are now beginning to realize the value of well selected seed.

During the season of 1921, 89 growers of 13 districts, with a total acreage of 195.38, received the benefit of our inspection service. This year 142 growers covering 20 districts with a total acreage of 175 had their crops inspected.

Similar to any other new work there have been many problems to face. However, after three years' work, I feel I can safely say, the obstacles are being overcome and the problems are gradually becoming solved.

In a province such as British Columbia where land is particularly high in price, averaging 125 dollars per acre for occupied farm lands, and labor costly, it is very necessary for our farmers to use the best seed possible. By so doing it enables them to improve the quality of their product and also to secure the highest possible yield per acre. This latter factor is very important because it lowers the cost of production.

The future possibilities of British Columbia as a seed potato producing province are very favorable. For this reason every effort is being made to give as many growers as possible the benefit of the seed potato inspection service. It is felt by those who know the province best that before many years pass we shall be in a position to export seed potatoes in large quantities. At the present time, however, on account of the increasing demand within the province for certified seed it is not possible to more than meet local requirements.

At this stage of our seed potato improvement work I am not prepared to state which districts are more suitable for the growing of seed potatoes. On account of the importance of the mosaic disease and the difficulties frequently met with in determining whether a plant is affected with mosaic or not, I am of the opinion, provided soil and climatic conditions are favorable for the development of strong vigorous plant growth, that seed potatoes should be grown in those districts where the mosaic symptoms can be readily recognized. Potatoes grown under dry conditions and apparently free from mosaic often show considerably mosaic when planted under moist conditions. It would appear, therefore, that districts well supplied with moisture during the growing season would be the most suitable for seed potato production.

In connection with the standardization of potato varieties, I wish to point out that it is not possible to standardize potato varieties in British Columbia as closely as is done in other places, on account of the great variety of soil and climatic conditions within short distances. Consequently a large number of varieties are being recommended for this province. However, if each district will follow the advice being given and select one or a limited number of varieties to grow it will be possible to place on the markets carloads of uniform potatoes. The varieties recommended are:—

Early.— Early St. George, Early Ohio.

Medium Early.— Irish Cobbler, Early Rose.

Late.— Gold Coin, Green Mountain, Sir Walter Raleigh, Burbank and Netted Gem.

During the past two or three years as a result of our seed potato certification work it has been possible to bring about the standardization of varieties in a few districts, since we would only agree to certify one or two of the varieties best suited for each district. The solution of the potato industry in British Columbia lies in co-operative effort on the part of the growers. Until the value of working together is thoroughly realized by all, this industry will never reach its greatest value. Co-operative effort is not only required for marketing the crop, but also in producing the same. Districts must set aside local jealousies and work together for the common good. When this is realized, then will the potato industry of British Columbia be a profitable one.

TOP-O'-MICHIGAN POTATO SHOW A SUCCESS

By E. J. Leenhouts, Ass't Agr. Agt., N. Y. C. Lines

The 7th, 8th and 9th of November, 1923, will probably go down in the annals of the potato history of northern Michigan as marking the most important event for those engaged in potato culture. Those dates mark the holding of the first "Top-O'-Michigan" Potato Show at Gaylord; a show that seems destined to teach the growers the things that are essential to successful production and marketing of their major crop. Potato shows without number are being held in large consuming centers beyond the reach of the producer, but the "Top-O'-Michigan" Potato Show is held in the center of the producing territory, and it brings the direct benefits to be secured from such a show within easy reach of the greatest number of potato producers instead of taking the educational features to distant out-of-reach points. In fact, the preface of the premium book says that the major object of the show is that "the individual grower will be able to see the types, varieties and quality demanded by the consuming market; the proper methods of grading and care; the results of proper cultivation and fertilization." The "show" will develop a medium for direct sales contact between buyer and grower of table and certified seed stock.

Served north and south by the M. C. R. R., and east and west by the B. C. G. & A., and located squarely in the center of northern Michigan and its producing area, Gaylord was indeed an ideal place for such a show. Incidentally, it also marks the highest point in Lower Michigan, and hence is called "Top-O'-Michigan." From 300 to 400 carloads of potatoes leave this one city every year for the great consuming centers. Here also is the home of the country's choicest seed stock, and many carloads are shipped to all parts of the country. For these reasons it was quite logical that the people there should demand a potato show, and that it should be called the "Top-O'-Michigan Potato Show."

Approximately 2,000 producers visited the show. Over 150 entries of northern Michigan's finest potatoes were on exhibition. Many experts who had attended many shows throughout the country admitted that they had never seen such a uniformly excellent collection of entries of spuds. F. C. Gaylord, of Purdue, acting as judge said, "I wish we had these potatoes in Indiana—they are certainly wonderful."

Competition was very keen, but it remained for a 17-year-old boy to show his elders the way by winning first in the 32-tuber entry, and also the sweepstake. Edward Domke's triumph was unquestioned—his entry was made of 32 potatoes as excellent as any one had ever laid eyes upon. It was a great day for this modest farm boy—even his father's entry was outclassed. Last year, he, as a member of the boys' and girls' club, won the grand trophy in the state as potato judge.

The other outstanding feature of the show was the special prizes

which were offered. The "Detroit Special" read as follows: "Exhibit to consist of one sample bushel of potatoes with statements as to the number of bushels of like quality the exhibitor can deliver at \$2.00 a bushel." A carload of 675 bushels of fancy potatoes was sold previously to several concerns in Detroit, including the Board of Commerce, at extra fancy prices. These concerns were willing to do this to convince the producer that the consumer is really in earnest about being willing to pay a premium for quality. This order of 675 bushels was pro-rated among the winners in these special classes. With potatoes selling at 40 cents a bushel, this prize was well worth striving for, and it attracted a great deal of attention. Properly followed up, it will probably develop a permanent market for fancy potatoes for those fortunate enough to win the prizes.

On every hand favorable comments were heard about the show, and there seems to be such a demand for a continuance of this affair that the Board of Directors have decided to make the "Top-O'-Michigan" Potato Show a permanent institution. They feel that the object of the show has been to a degree accomplished and that it is very much worth while. It is impossible to have 155 farmers competing for \$1,000 worth of premiums by carefully selecting for what the judge is likely to want, without bringing about some educational benefits. It is impossible to have 2,000 farmers study 155 entries of excellent potatoes and many interesting exhibits put on by the Extension experts without some permanent good resulting therefrom.

The show was sponsored and financed by six counties in northeastern Michigan, the Northeastern Development Bureau, Gaylord Board of Commerce, and the Agricultural Department of the New York Central Lines.

BOSTON'S POTATO STORY

Although white potatoes for local consumption are produced in practically every section of the United States, the bulk of the crop for commercial purposes is produced in a relatively small number of concentrated areas. Among the foremost of these is the State of Maine. About ten per cent of the total annual production in the United States comes from Maine, and of this enormous volume, over nine-tenth is grown in Aroostook County. Potato culture in Aroostook County is an extremely specialized industry, holding there the same position of importance as is held by wheat growing in the great Northwest, and citrus fruit raising in parts of California.

Potatoes, besides being the most important crop grown in Maine, are also one of the most important articles of food entering the Boston market. The chief sections from which they are received, in order of importance are: Maine, Virginia, New Jersey, New

Brunswick, Florida, South Carolina, North Carolina and Maryland. During the last year over eight thousand cars of white potatoes arrived through the freight terminals, constituting about twenty per cent of the total shipments of the fruits and vegetables reaching Boston by rail.

One-fourth of Maine's total potato shipments supplies seventy-four per cent of Boston's potato receipts, the remaining twenty-six per cent arriving largely from the southern states, during the spring and summer months. It is therefore evident that Boston and vicinity draw practically their entire late potato supply from Maine.

Maine potatoes are shipped to Boston every month in the year. Only a small part of the crop, however, is shipped at digging time, and the remainder is stored either in frost-proof potato houses near the railroad tracks, or on the farms by individual growers. "Shall we sell early or store till spring?" is a question which always faces growers and local dealers in the fall of the year.

An investigation of the relation between the size of the crop and autumn and spring prices made by the Massachusetts Division of Markets, covering the period of fifty years, shows that the size of the crop is in itself a good indicator of the price trend. When there is a short crop, there is almost certain to be a marked rise in potato prices from September to the following May; when there is a surplus, the probability is that the price will fall or remain the same.

The size of the United States crop is the main force which determines potato prices, both for the United States as a whole, and for Maine. A short Maine crop tends to increase Maine potato prices to slightly above United States prices, while a large Maine crop tends to cause Maine prices to drop slightly below the United States prices. In years of both small and large production, Maine potato prices closely follow the United States potato price trends.

The prices of other foodstuffs and general commodity prices have their effect on the price of potatoes also, and it is therefore necessary to take this fact into consideration in attempting to determine whether it will be profitable to stop or not. Articles have been written on the subject of the storage warehouse as a safety valve of food production, but a vital point has been omitted—the profitableness and unprofitableness of storing. The question arises, How often do losses occur in the potato holding business? What is true of potatoes is true also to a more or less degree of other commodities. The chances of loss or gain are little better than fifty-fifty, and men who have been in the produce business for many years claim that this is the true state of affairs.

In addition to the speculative side of the storage problem, there is also the question of carrying costs. The prevailing charge for storing space in Aroostook County is from 15 to 20 cents per barrel. In estimating the possible gains from storing, there are also costs which must be accounted for, such as the average shrink-

age, which for the storage season is estimated at about ten per cent. In some cases deterioration of the stock from disease or over-heating is heavy. The insurance charge for the season averages from three to four per cent of the value of the potatoes. Interest on the money invested should also be figured in at the current rate. In addition to these fixed costs, there is also the expense of handling and re-sorting, which a period in storage makes necessary.

The 1923 United States potato crop of approximately 390 million bushels just equals the 5-year average. The average October potato crop condition for the past ten years has been 73 per cent, while this year the crop condition was reported to be 77 per cent, which is above the ten-year average. As a rule, an October crop condition as good as, or better than, the ten-year average for that month, has been followed by lower prices in March, according to C. D. Bohannon, Associate Economist in Marketing, U. S. Department of Agriculture.

Mr. Bohannon states that during the 21 years, 1900-'20, the per capita production of potatoes in the United States averaged 3.6 bushels. During nine years of the twenty-one years, actual production was below the amount required to furnish 3.6 bushels per capita, and in all but two of these years, the March price was 12 cents a bushel or more higher than the October price had been. In five of the years the price increase ranged from 19 cents a bushel up. In ten of the twelve years when production was equal to or above the required amount, the March price was either below the October price or only a few cents higher. In 1907-'08, one of the exceptional years, poor keeping quality tended seriously to reduce the stock of marketable potatoes; while in 1915 the potato crops suffered from blight, and there was also an unusually heavy export demand.

These data would seem to indicate that with our present population of 109 million, production of 349 million bushels (3.2 bushels per capita or less would in all likelihood be accompanied by an upward trend in prices by spring; on the other hand, production of 430 million bushels (3.9 bushels per capita) would probably be followed by lower prices. With a production between these two figures the price trend would be somewhat uncertain.

Maine potatoes have a very good reputation in the large eastern markets as a result of the care which the growers and shippers of that State are taking in grading their stock. The greater bulk of Maine potatoes are shipped as U. S. grade No. 1.

Practically all of the Maine potato crop is shipped by rail in earload lots. The prevailing practice is to ship table stock to Boston in bulk. The chief reason for this seems to lie in the fact that Boston wholesalers prefer to receive bulk potatoes and to grade them to suit their trade. A car loaded with bulk potatoes is easy to inspect, and when a jobber or other large buyer comes to the tracks to place an order, he can readily make a choice.

(To be continued)